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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,960	07/17/2003	David F. Arlasky	7444 (284*3)	6054
7590 09/08/2004				
Faier and Faier, P.C. 566 West Adams Street Chicago, IL 60661			EXAMINER SAN MARTIN, EDGARDO	
			ART UNIT 2837	PAPER NUMBER

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,960

Applicant(s)

ARLASKY, DAVID F.

Examiner

Edgardo San Martin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - The abstract of the disclosure is objected. Applicant is reminded of the proper language and format for an abstract of the disclosure. **The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.** Correction is required. See MPEP § 608.01(b).
 - The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: FAN STRUCTURE FOR PROPULSION MUFFLER.

Appropriate correction is required.

Claim Objections

2. Claim 17 is objected to because of the following informalities:
 - Line 7 after "a standard muffler in an" should read - - engine - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss et al. (US 4,263,981) in view of Lyman (US 4,109,753), and further in view of Chang (US 6,343,673).

With respect to claims 1 and 11 - 18, Weiss et al. teach a muffler comprising a shell (Fig.1, Item 19) with an expansion chamber tube (Fig.1, Item 17) coaxially attached to the shell such that an interior of the shell and an exterior of the expansion chamber tube form a sound suppression sleeve containing sound suppression material (Fig.1, Item 18), wherein an interior of the expansion chamber tube forms an expansion chamber (Fig.1, Item 16), the expansion chamber tube is perforated with apertures to achieve about 40-80% porosity (Col.3, Line 55 – Col.4, Line 10), such that the expansion chamber is in communication with the materials in the sound suppression sleeve, an inlet tube (Fig.1, Item 13) is attached to an inlet (Fig.1, Item 15) of the shell such that an inlet tube interior is in communication with the expansion chamber, but fail to disclose wherein a rotatable propeller is attached to the muffler such that the propeller is capable of rotation when exhaust gas passes from the inlet tube into the expansion chamber, and wherein the propeller spins the exhaust gas to facilitate its passage through the expansion chamber, and through an outlet in the shell.

Nevertheless, Lyman teaches a muffler comprising a shell with a passage tube coaxially attached to the shell such that an interior of the shell and an exterior of the passage tube form a sound suppression sleeve containing sound suppression material (Fig.2), wherein an interior of the passage tube is perforated with apertures such that the inside of the passage tube is in communication with the materials in the sound suppression sleeve, an inlet tube (Fig.2, Item 44) is attached to an inlet (Fig.2, Item 36) of the shell such that an inlet tube interior is in communication with the passage tube, wherein a diffuser is attached to the muffler such that the diffuser is capable of creating a rotation effect when exhaust gas passes from the inlet tube into the passage tube, and wherein the diffuser spins the exhaust gas to facilitate its passage through the expansion chamber, and through an outlet in the shell (Col.5, Line 50 – Col.6, Line 30). However, Lyman fails to disclose wherein the diffuser is a rotatable propeller.

On the other hand, Chang teaches a muffler comprising a shell with a passage tube coaxially attached to the shell such that an interior of the shell and an exterior of the passage tube form a sound suppression sleeve containing sound suppression material (Fig.7), wherein a rotatable propeller (Fig.7, Item 30) is attached to the muffler such that the propeller is capable of rotation when exhaust gas passes from the inlet tube into the passage tube, and wherein the propeller spins the exhaust gas to facilitate its passage through the expansion chamber, and through an outlet in the shell (Col.2, Lines 37 – 58).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to place the Chang rotatable propeller in the inlet tube of the

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Lyman muffler structure, and employ the Chang and Lyman teachings combination with the Weiss et al. expansion chamber design because the complete combination would provide a muffler structure that would increase the performance and efficiency of an engine, increasing the engine power and saving the fuel of an vehicle by creating a low back pressure environment due to the expansion chamber configuration in addition to the rotatable propeller that would accelerate the exhaust velocity of the gasses flowing into the muffler.

With respect to claims 2 and 3, Chang teaches (regarding claim 3) wherein the propeller (Fig.5, Item 34) is mounted on a shoulder screw (Fig.5, Item 33) that is rotatably mounted in a bearing (Fig.5, Item 331). Regarding claim 2, the Examiner considers that it would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the propeller on a bearing that is rotatably mounted on a shoulder screw, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70; and since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Einstein, 8 USPQ 167. In addition, the Examiner considers that it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a Teflon-filled bronze bearing, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

With respect to claims 4, 5 and 17, Weiss et al. teach wherein the expansion tube has between about 75% to about 90% greater flow cross-sectional area than the inlet tube.

With respect to claims 6 – 10, 17, 19 and 20, the Examiner considers that it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the Weiss et al., Lyman and Chang design to work at certain requirements to obtain a optimum value of a desired result or performance, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Conclusion

4. The attached hereto PTO Form 892 lists prior art made of record that the Examiner considered it pertinent to applicant's disclosure.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edgardo San Martin whose telephone number is (571) 272-2074. The examiner can normally be reached on 8:00AM - 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edgardo San Martín
Patent Examiner
Art Unit 2837
Class 181
September 6, 2004